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A 0270-1829

EXAMINER

34M1/1115

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SUITE 600  
MCLEAN VA 22102

NO. ART UNIT PAPER NUMBER

3402

5

DATE MAILED: 11/15/96

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on \_\_\_\_\_ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire THREE (3) month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

**Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.      | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152.       |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____   |

**Part II SUMMARY OF ACTION**

1. ☒ Claims 1-20 are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
2. ☐ Claims \_\_\_\_\_ have been cancelled.
3. ☐ Claims \_\_\_\_\_ are allowed.
4. ☒ Claims 1-20 are rejected.
5. ☐ Claims \_\_\_\_\_ are objected to.
6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.
7. ☒ This application has been filed with Informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

Art Unit: 3402

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because:

lines are not uniformly thick and well defined.

Correction is required.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

reference number 82, 84, 86, 88, 90, and 92 of figure 2;

reference number 64, 68, 74, and 78 of figure 3.

Correction is required.

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show “an elongated strip of electrical resistance” (page 8 line 21) , “ a set of washers” (page 9 line 13-14), “ air filter” (page 11 line 5) as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing.

MPEP § 608.02(d). Correction is required.

4. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.
5. The drawings submitted with this application were declared informal by the applicant. Accordingly they have not been reviewed by a draftsman at this time. When formal drawings

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are submitted, the drafts person will perform a review. Direct any inquiries concerning drawing review to the Drawing Review Branch (703) 305-8404.

***Claim Objections***

6. Claim 15 is objected to because of the following informalities:

the terms "first surface" (page 16 line 14, 15), and "second surface" (page 16 line 15) should be changed to "bottom surface" and "top surface" respectively. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. Claims 6-7, and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For example, the terms "said integral intake manifold" (page 14 line 11-12, page 16 line 2), "said top surface" (page 14 line 15), "second surface" (page 17 line 17) lack antecedent basis.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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8. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. of U.S. Pat. 4,685,437.

Tanaka et al. show every element of the instant claimed subject matters, including:

a heater frame (col. 5 lines 10-30);

a heater element (col. 6 lines 19-23);

a flange portion around the frame member (fig. 1,2,5,6, etc.)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. of U.S. Pat. 4,685,437 in view of Berg of U.S. Pat. 4,465,053.

Tanaka et al. teach an air intake heater 1 which has heater elements 12,13 mount on a frame member 2,3, an electric connector to connect to electrical source. Berg, however, shows an intake air heater 10 with electrical resistance heater elements, an electric connector 44 to connect to electrical source. Therefore, it would have been obvious to one of ordinary skill in the

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art at the time the invention was made to provide the air intake heater of Tanaka et al. with the electrical resistance heater of Berg for easy warm up the engine during cold start.

10. Claims 6-8, 10-12, 14, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cailey of U.S. Pat 4,926,812 in view of Tanaka et al. of U.S. Pat. 4,685,437

Regarding claims 6-8, Cailey teaches a cylinder head 12 with top and bottom surface, an intake manifold 18 (fig. 2). However, Tanaka et al. shows an intake manifold 50 with an intake air heater 1 (fig. 4). Therefore, to provide the intake manifold of Cailey with the intake air heater of Tanaka et al. to reduce the size of the engine.

With regard to claims 10-12, Tanaka et al. disclose an intake air heater with heater elements which are supported by frame member, flange portion around the heater frame, an electrical connector.

With regard to claims 14 and 19, Cailey teaches an air delivery conduit (fig. 2) which is abutted against cylinder head through the flange portion (element 44), bolt holes (element 42).

11. Claims 9, 13, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cailey of U.S. Pat. 4,926,812 in view of Tanaka et al. of U. S. Pat. 4,685,437 as applied to claim 6-7 above, and further in view of Berg of U.S. Pat. 4, 465,053.

Berg teaches an intake air heater with electrical resistance heater element, an electrical connector to connect electrical resistance heater element to electrical source. Therefore, it would have been to one of ordinary skill in the art at the time the invention was made to provide the air

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intake heater of Tanaka et al. with the electrical resistance heater of Berg for easy warm up the engine during cold start.

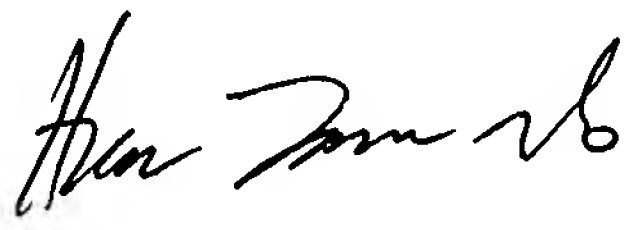
12. Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cailey of U.S. Pat. 4,962,812 in view of Tanaka et al. U.S. Pat. 4,685,437.

Cailey teaches a cylinder head with top and bottom surface, an intake manifold, an air delivery conduit (fig. 2). However, Tanaka et al. shows an intake manifold with an intake air heater which has heater elements are supported by heater frame (fig. 4). Therefore, to provide the intake manifold of Cailey with the intake manifold of Tanaka et al. to reduce the size of the engine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Hieu T. Vo whose telephone number is (703) 305-6800. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 4:00 p.m.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

  
HENRY YUEN  
SUPERVISORY PATENT EXAMINER  
GROUP 3400

  
HIEU T. VO  
Patent Examiner  
Art Unit 3402

HTV  
November 5, 1996